



E88066-00  
E88068-00

E88070-00



# CREWMAN™ 20 ORB CREWMAN™ 28 ORB

20", 28" Orbital  
Strip Machines



## Operator and Parts Manual

## Specifications

Length - 20 in. or 28 in.

Width - 20 in.

Height - 48 in.

Weight - 165 Lbs., 215 Lbs., or 288 Lbs.

Speed - 3400 RPM

Pad Size - 20" x 14" or 20" x 28"

Drive motor – 1.5 HP, 120v, 12A, 60 Hz

Cord – 14-3 ST, 50 ft. or 12-3 ST, 75 ft.

## Safety

### **Read and understand the manual before operating this machine.**

Do not operate in explosive areas or use near flammable liquids or gases or dust.

Attach only to properly grounded outlet.

Do not expose to rain, store indoors.

Do not operate the machine with a damaged cord or plug.

Do not block or disconnect the safety lever.

Do not leave the machine plugged in while unattended.

Unplug the machine before servicing.

Do not put fingers under the pad or pad holder.

Unplug the machine before installing or removing the pad.

Never inhale dust created by the use of this machine.

Do not use machine if it has been sprayed with water or left out in the rain.

## Operating Instructions

Check machine for damage to cord or plug. Use suitable pads or brushes. Always use a 1" red pad between the gripper face and abrasive pad.

### **To install or change the pad:**

1. Unplug the machine.
2. Tip the machine back on the wheels.
3. Install brush or pad driver.
4. Center the pad on the pad driver.

### **To operate the machine:**

1. Plug into a grounded outlet.
2. The machine can be operated with the handle in an upright position or lowered position, whichever is most comfortable for the operator.
3. Handle does not need to be locked during use, some operators prefer to use the machine with the handle position unlocked and floating.
4. Press the safety lever and squeeze the trigger to start the machine.
5. Store the machine with the red carrier pad installed on the machine.
6. Use only new or clean pads and reverse them as needed.

## Routine Maintenance

To maintain appearance, wipe the machine with a damp cloth or clean with forced air after every use.

### **Warning** – Unplug the machine before servicing

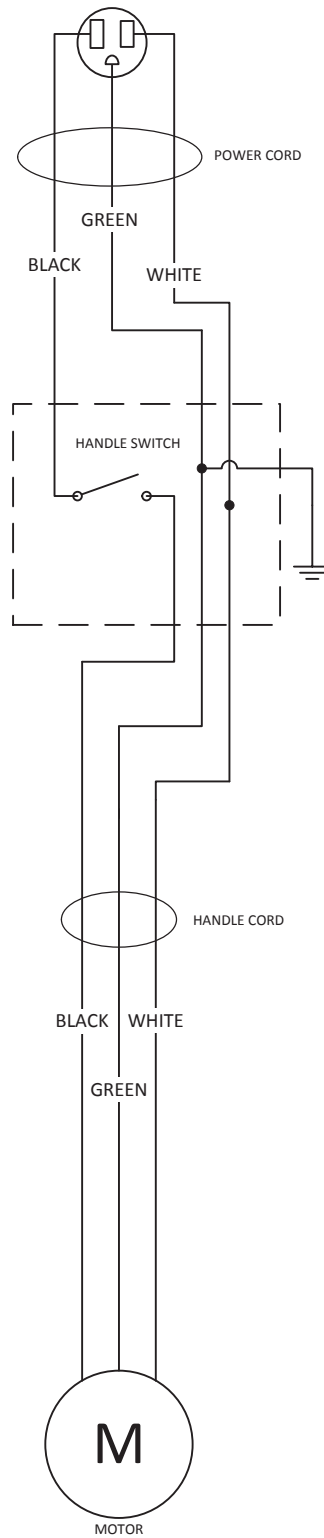
**Prior to use:** Check the power cord. Never operate the equipment if the power cord is frayed, cut, or ground is missing. Check the vacuum hose and connections if equipped with this option. Check grip face and pad driver, inspect for wear or debris.

**After use:** Clean pad and base plate assembly, replace pad as needed. Inspect grip face for wear. Remove debris from between grip face and base plate.

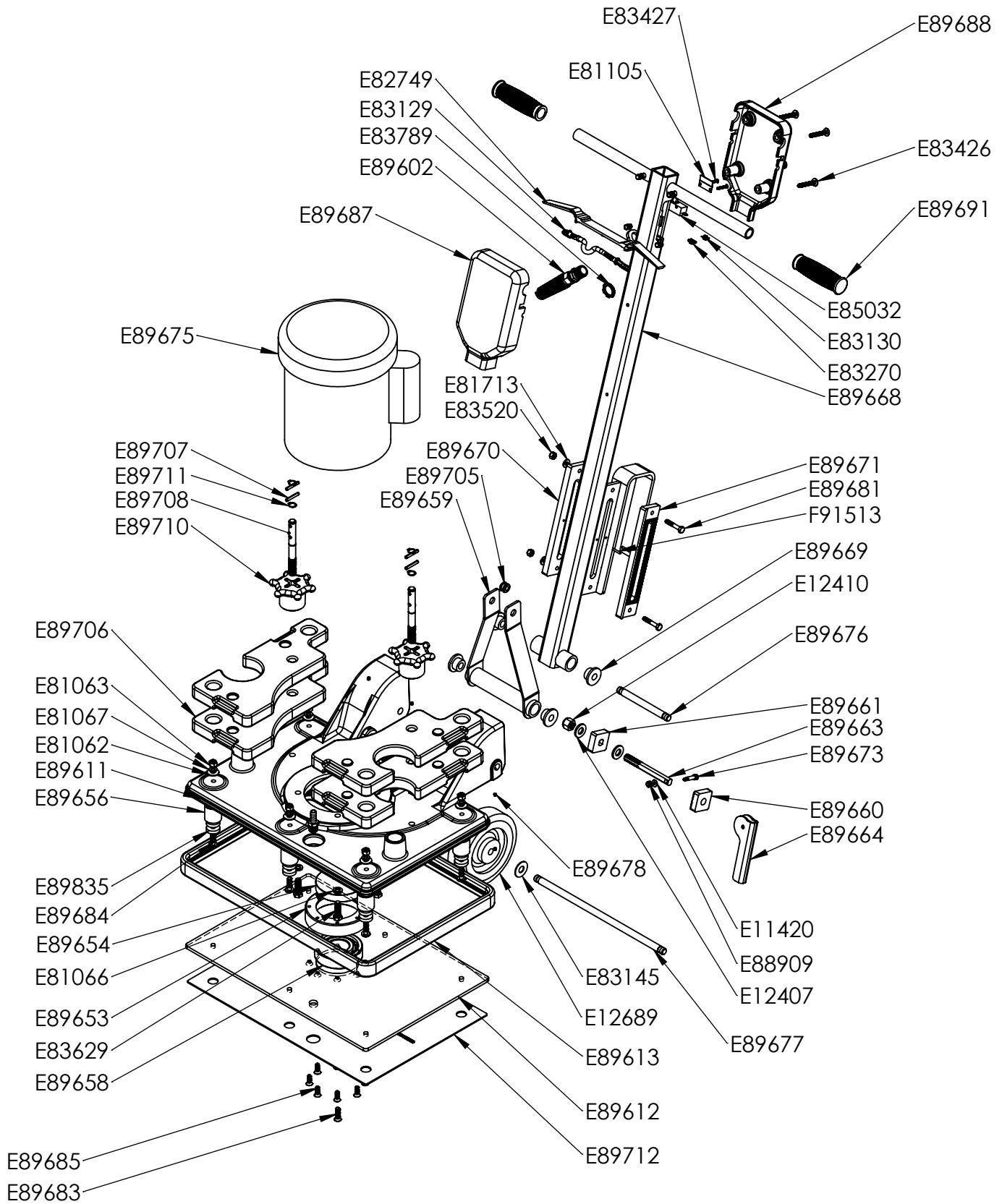
**Weekly:** Check grip face for wear. Use a vacuum cleaner to clean away debris from around the motor assembly, weights, and base plate.

**Annually:** Replace all isolators on the machine. Replace bearing assembly after 750 hours of use.

# 20" AND 28" ORBITAL WIRING DIAGRAM



## 20" ORBITAL EXPLODED VIEW



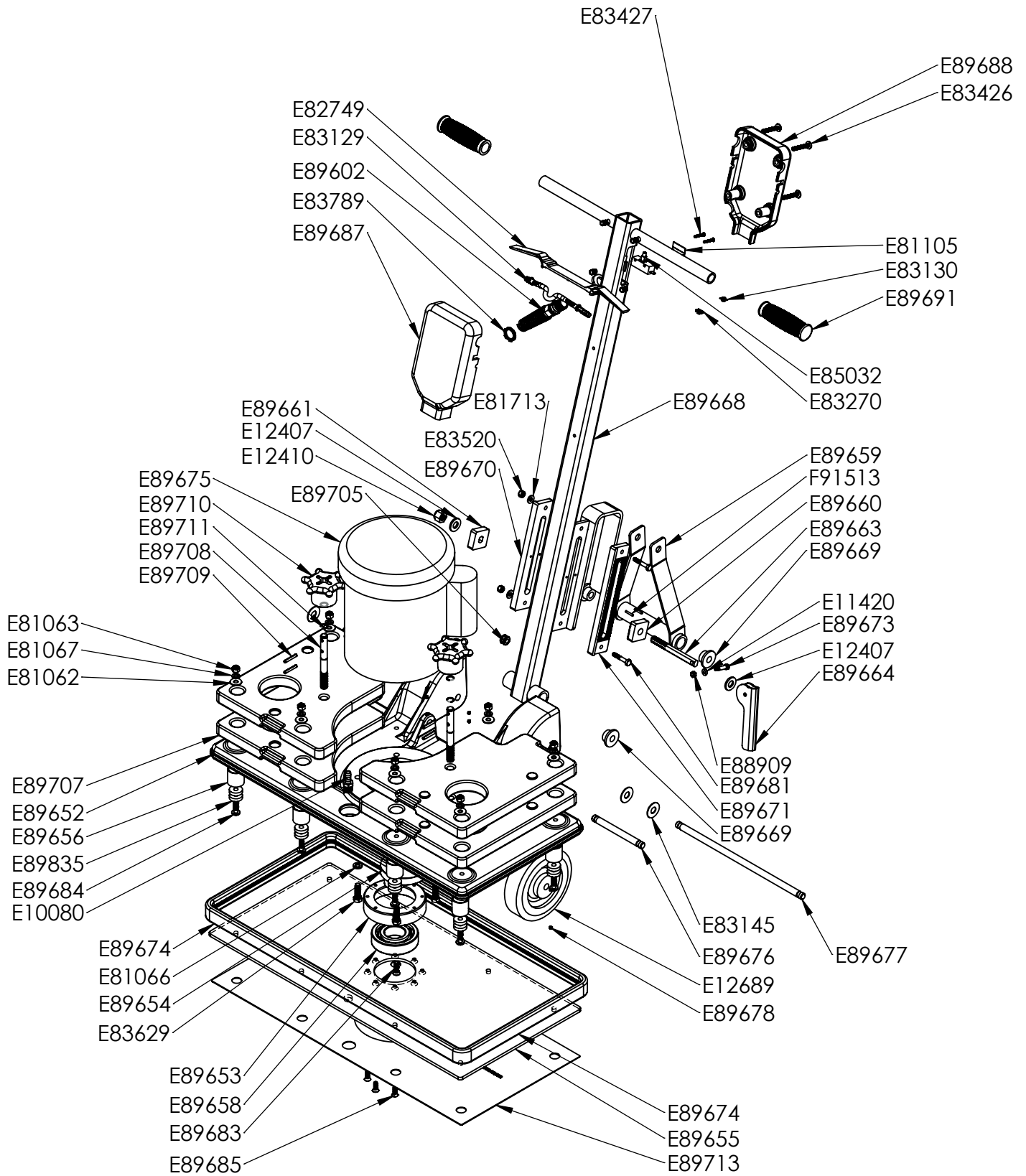
## 20 Inch Orbital Machine Parts Listing

| NO. | PART NO. | DESCRIPTION                              | QTY. |
|-----|----------|------------------------------------------|------|
| 1   | E10080   | Fitting, .375 NPSM TO .375 Hose Barb     | 1    |
| 2   | E11420   | Flat Washer #10 Zinc                     | 1    |
| 3   | E12407   | Washer, 1/2" SAE, Zinc                   | 2    |
| 4   | E12410   | Nut, 1/2"-13, Nylon Lock, Grade 5, Zinc  | 1    |
| 5   | E12689   | Wheel 6 In. Dia.                         | 2    |
| 6   | E81062   | Flat Washer 5/16 USS, Zinc               | 6    |
| 7   | E81063   | Nyloc Hex Nut 5/16-18 Zinc               | 6    |
| 8   | E81066   | Split Lock washer .375 Zinc              | 4    |
| 9   | E81067   | Lock Washer 5/16 Zinc                    | 6    |
| 10  | E81105   | Plate, Switch                            | 1    |
| 11  | E81713   | Flat Washer 0.250 Zinc                   | 2    |
| 12  | E82749   | Handle Trigger Switchbox                 | 1    |
| 13  | E83129   | Safety Lock                              | 1    |
| 14  | E83130   | Spring, Extension                        | 1    |
| 15  | E83145   | Nylon Washer 1/2 ID x 1.25 OD            | 4    |
| 16  | E83270   | Spring Clip                              | 1    |
| 17  | E83426   | Truss Head Screw, 1/4-20 x 1.750 Lg Zinc | 4    |
| 18  | E83427   | Screw 6-32 x 1.00 Lg                     | 2    |
| 19  | E83520   | Nyloc Hex Nut 1/4-20 Zinc                | 2    |
| 20  | E83629   | Hex Head Bolt 3/8-16 x 1-1/4 Lg          | 4    |
| 21  | E83789   | Strain Relief Nut, Metal                 | 1    |
| 22  | E85032   | Switch, 25 AMP, 1/5 HP, 125 VAC          | 1    |
| 23  | E88909   | Nut, Nylon Lock#10-24, Zinc              | 1    |
| 24  | E89602   | Cord Grip                                | 1    |
| 25  | E89611   | Cast 13-19 Motor Mount Plate             | 1    |
| 26  | E89612   | 13-20 Pad Driver Backing Plate           | 1    |
| 27  | E89613   | 20 Bumper                                | 1    |
| 28  | E89653   | Bearing Retainer                         | 1    |
| 29  | E89654   | Eccentric                                | 1    |
| 30  | E89656   | Dampener                                 | 1    |
| 31  | E89658   | Bearing NTN 6008LU                       | 1    |
| 32  | E89659   | Handle Support Weldment                  | 1    |
| 33  | E89660   | Cam Lock Foot                            | 1    |
| 34  | E89661   | Cam Lock Slider Foot                     | 1    |
| 35  | E89663   | Cam Lock Tension Bolt                    | 1    |
| 36  | E89664   | Cam Lock Handle                          | 1    |
| 37  | E89668   | Handle Weldment                          | 1    |
| 38  | E89669   | Step Bushing                             | 4    |
| 39  | E89670   | Cam Lock Slide Bar                       | 1    |

| NO. | PART NO. | DESCRIPTION                                    | QTY. |
|-----|----------|------------------------------------------------|------|
| 40  | E89671   | Cam Lock Bar                                   | 1    |
| 41  | E89673   | Screw SH Shoulder 0.25 Dia. X 0.75 Lg SS       | 1    |
| 42  | E89675   | Imperial Motor                                 | 1    |
| 43  | E89676   | Handle Axle                                    | 1    |
| 44  | E89677   | Handle Support Axle                            | 1    |
| 45  | E89678   | Set Screw, Socket 10-24 X 0.19 SS              | 10   |
| 46  | E89681   | Hex Bolt 1/4-20 X1.5 Lg. Zinc                  | 2    |
| 47  | E89684   | SCREW, PAN HD PHIL .03125-18 X 1.0 LG SS       | 6    |
| 48  | E89685   | SCREW, FLAT HD PHIL .25-20 X .75 LG SS         | 8    |
| 49  | E89687   | HANDLE SWITCH BOX FRONT                        | 1    |
| 50  | E89688   | HANDLE SWITCH BOX REAR                         | 1    |
| 51  | E89691   | Hand Grip                                      | 2    |
| 52  | E89705   | Gromment                                       | 1    |
| 53  | E89706   | 20 Inch Weight                                 | 4    |
| 54  | E89708   | Center Bolt                                    | 2    |
| 55  | E89709   | Dowel Pin-Weight Holder                        | 4    |
| 56  | E89710   | Knob                                           | 2    |
| 57  | E89711   | Retaining Ring 0.50 In Dia. Shaft              | 4    |
| 58  | E89712   | Flex Loc Pad                                   | 1    |
| 59  | E89835   | Washer, Nylon 0.34 I.D. x 1.26 O.D. x 0.25 Thk | 12   |
| 60  | F91513   | Spring Pin                                     | 2    |
| 61  | Label    | Label                                          | 1    |



## 28" ORBITAL EXPLODED VIEW



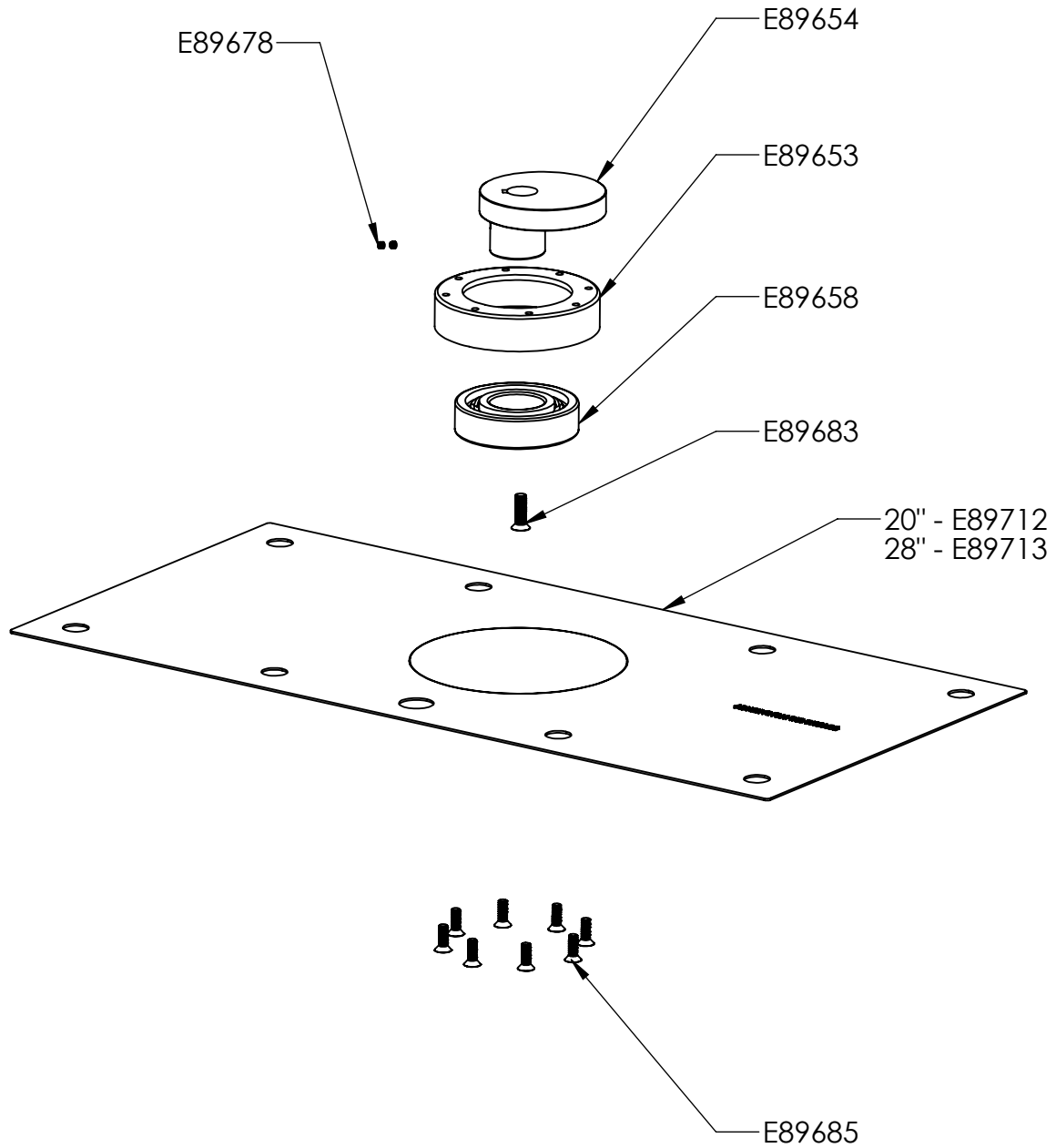
## 28 Inch Orbital Machine Parts Listing

| NO. | PART NO. | DESCRIPTION                              | QTY. |
|-----|----------|------------------------------------------|------|
| 1   | E10080   | Fitting, .375 NPSM TO .375 Hose Barb     | 1    |
| 2   | E11420   | Flat Washer #10 Zinc                     | 1    |
| 3   | E12407   | Washer, 1/2" SAE, Zinc                   | 2    |
| 4   | E12410   | Nut, 1/2"-13, Nylon Lock, Grade 5, Zinc  | 1    |
| 5   | E12689   | Wheel 6 In. Dia.                         | 2    |
| 6   | E81062   | Flat Washer 5/16 USS, Zinc               | 8    |
| 7   | E81063   | Nyloc Hex Nut 5/16-18 Zinc               | 8    |
| 8   | E81066   | Split Lock washer .375 Zinc              | 4    |
| 9   | E81067   | Lock Washer 5/16 Zinc                    | 8    |
| 10  | E81105   | Plate, Switch                            | 1    |
| 11  | E81713   | Flat Washer 0.250 Zinc                   | 2    |
| 12  | E82749   | Handle Trigger Switchbox                 | 1    |
| 13  | E83129   | Safety Lock                              | 1    |
| 14  | E83130   | Spring, Extension                        | 1    |
| 15  | E83145   | Nylon Washer 1/2 ID x 1.25 OD            | 4    |
| 16  | E83270   | Spring Clip                              | 1    |
| 17  | E83426   | Truss Head Screw, 1/4-20 x 1.750 Lg Zinc | 4    |
| 18  | E83427   | Screw 6-32 x 1.00 Lg                     | 2    |
| 19  | E83520   | Nyloc Hex Nut 1/4-20 Zinc                | 2    |
| 20  | E83629   | Hex Head Bolt 3/8-16 x 1-1/4 Lg          | 4    |
| 21  | E83789   | Strain Relief Nut, Metal                 | 1    |
| 22  | E85032   | Switch, 25 AMP, 1/5 HP, 125 VAC          | 1    |
| 23  | E88909   | Nut, Nylon Lock#10-24, Zinc              | 1    |
| 24  | E89602   | Cord Grip                                | 1    |
| 25  | E89652   | Cast Motor Mount Plate                   | 1    |
| 26  | E89653   | Bearing Retainer                         | 1    |
| 27  | E89654   | Eccentric                                | 1    |
| 28  | E89655   | Pad Driver Backing Plate                 | 1    |
| 29  | E89656   | Dampener                                 | 1    |
| 30  | E89658   | Bearing NTN 6008LU                       | 1    |
| 31  | E89659   | Handle Support Weldment                  | 1    |
| 32  | E89660   | Cam Lock Foot                            | 1    |
| 33  | E89661   | Cam Lock Slider Foot                     | 1    |
| 34  | E89663   | Cam Lock Tension Bolt                    | 1    |
| 35  | E89664   | Cam Lock Handle                          | 1    |
| 36  | E89668   | Handle Weldment                          | 1    |
| 37  | E89669   | Step Bushing                             | 4    |
| 38  | E89670   | Cam Lock Slide Bar                       | 1    |
| 39  | E89671   | Cam Lock Bar                             | 1    |

| NO. | PART NO. | DESCRIPTION                                    | QTY. |
|-----|----------|------------------------------------------------|------|
| 40  | E89673   | Screw SH Shoulder 0.25 Dia. X 0.75 Lg SS       | 1    |
| 41  | E89674   | 28 Bumper                                      | 1    |
| 42  | E89675   | Imperial Motor                                 | 1    |
| 43  | E89676   | Handle Axle                                    | 1    |
| 44  | E89677   | Handle Support Axle                            | 1    |
| 45  | E89678   | Set Screw, Socket 10-24 X 0.19 SS              | 10   |
| 46  | E89681   | Hex Bolt 1/4-20 X1.5 Lg. Zinc                  | 2    |
| 47  | E89684   | SCREW, PAN HD PHIL .03125-18 X 1.0 LG SS       | 8    |
| 48  | E89685   | SCREW, FLAT HD PHIL .25-20 X .75 LG SS         | 8    |
| 49  | E89687   | HANDLE SWITCH BOX FRONT                        | 1    |
| 50  | E89688   | HANDLE SWITCH BOX REAR                         | 1    |
| 51  | E89691   | Hand Grip                                      | 2    |
| 52  | E89705   | Gromment                                       | 1    |
| 53  | E89707   | 28 Inch Weight                                 | 4    |
| 54  | E89708   | Center Bolt                                    | 2    |
| 55  | E89709   | Dowel Pin-Weight Holder                        | 4    |
| 56  | E89710   | Knob                                           | 2    |
| 57  | E89711   | Retaining Ring 0.50 In Dia. Shaft              | 4    |
| 58  | E89713   | Flex Loc Pad                                   | 1    |
| 59  | E89835   | Washer, Nylon 0.34 I.D. x 1.26 O.D. x 0.25 Thk | 16   |
| 60  | F91513   | Spring Pin                                     | 2    |
| 61  | Label    | Label                                          | 1    |



# Pad Driver Replacement Bearing Kit





# Replacement Bearing Kit Parts Listing

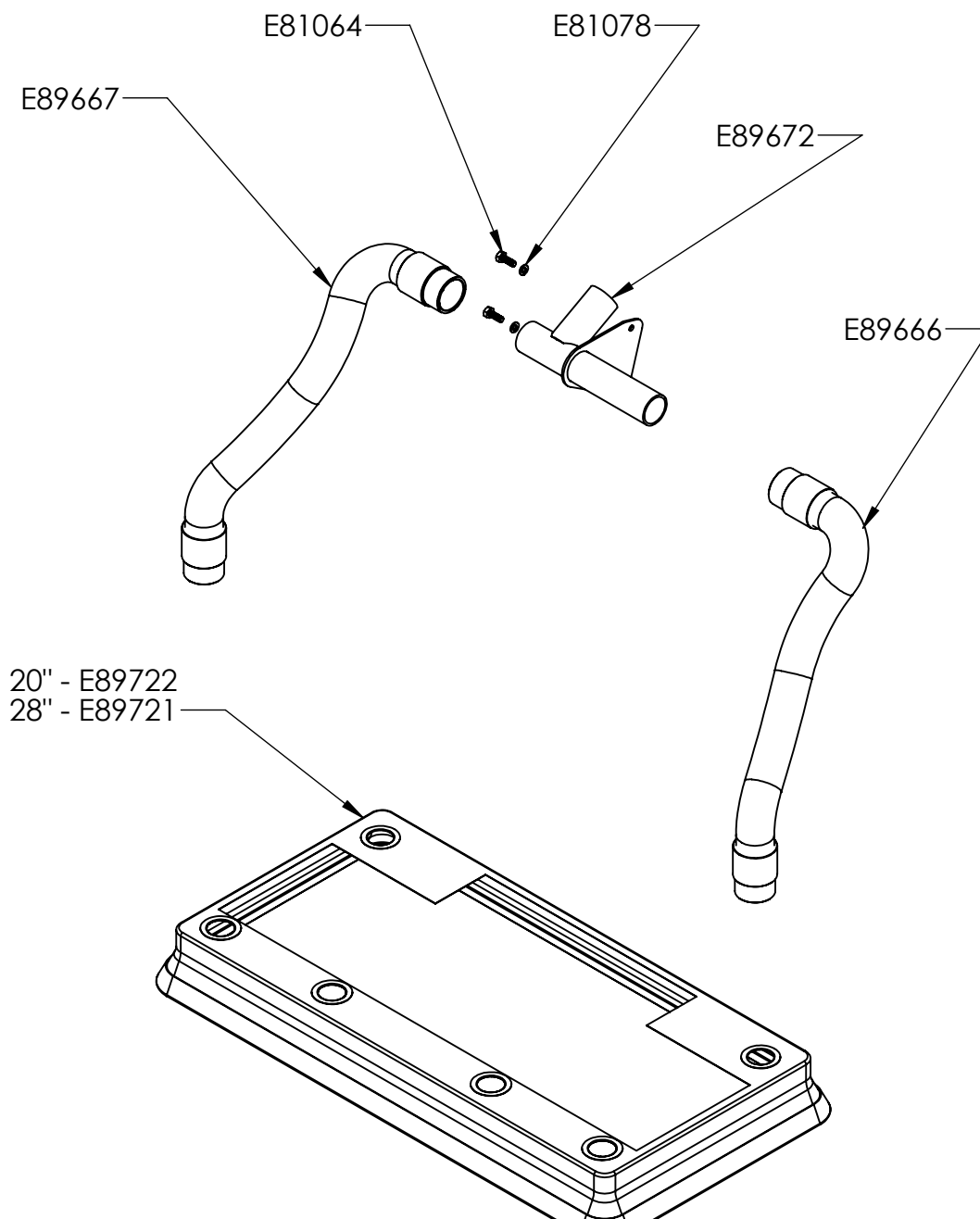
## ITEM EP50255 - 20" BEARING KIT

| NO. | PART NO. | DESCRIPTION                                  | QTY. |
|-----|----------|----------------------------------------------|------|
| 1   | E89653   | Bearing Retainer                             | 1    |
| 2   | E89654   | Eccentric                                    | 1    |
| 3   | E89658   | Bearing 6008 2RS                             | 1    |
| 4   | E89678   | Set Screw, Socket 10-24 X 0.19 SS            | 2    |
| 5   | E89683   | Screw, Flat Head Socket 5/16-24 X 1.00 LG SS | 1    |
| 6   | E89685   | Screw, Flat Head Philips 1/4-20 X 0.75 LG SS | 8    |
| 7   | E89712   | 20 Inch Flex Loc Pad                         | 1    |

## ITEM EP50256 - 28" BEARING KIT

| NO. | PART NO. | DESCRIPTION                                  | QTY. |
|-----|----------|----------------------------------------------|------|
| 1   | E89653   | Bearing Retainer                             | 1    |
| 2   | E89654   | Eccentric                                    | 1    |
| 3   | E89658   | Bearing 6008 2RS                             | 1    |
| 4   | E89678   | Set Screw, Socket 10-24 X 0.19 SS            | 2    |
| 5   | E89683   | Screw, Flat Head Socket 5/16-24 X 1.00 LG SS | 1    |
| 6   | E89685   | Screw, Flat Head Philips 1/4-20 X 0.75 LG SS | 8    |
| 7   | E89713   | 28 Inch Flex Loc Pad                         | 1    |

## Optional Dust Containment Kit



## Dust Containment Kit Parts Listing

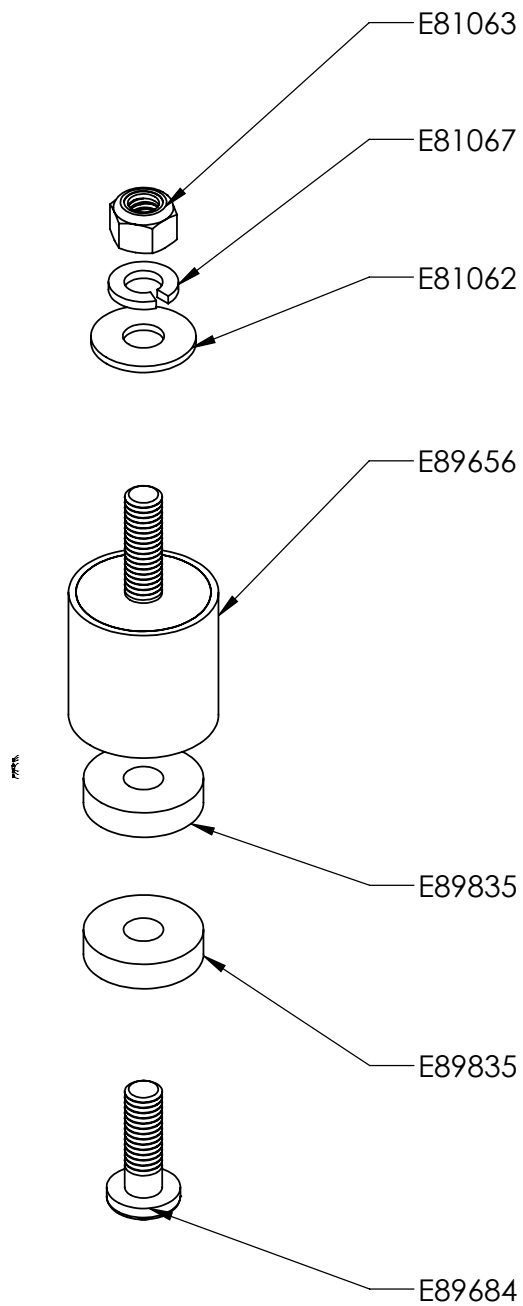
### ITEM EP50249-20" ORBITAL DUST CONTAINMENT KIT

| NO. | PART NO. | DESCRIPTION                    | QTY. |
|-----|----------|--------------------------------|------|
| 1   | E81064   | Hex Bolt 1/4-20 x 0.75 LG Zinc | 2    |
| 2   | E81078   | Lock Washer 0.250 Zinc         | 2    |
| 3   | E89666   | Vacuum Hose Assembly - Left    | 1    |
| 4   | E89667   | Vacuum Hose Assembly - Right   | 1    |
| 5   | E89672   | Vacuum Pickup Tube             | 1    |
| 6   | E89722   | Dust Skirt                     | 1    |

### ITEM EP50250-28" ORBITAL DUST CONTAINMENT KIT

| NO. | PART NO. | DESCRIPTION                    | QTY. |
|-----|----------|--------------------------------|------|
| 1   | E81064   | Hex Bolt 1/4-20 x 0.75 LG Zinc | 2    |
| 2   | E81078   | Lock Washer 0.250 Zinc         | 2    |
| 3   | E89666   | Vacuum Hose Assembly - Left    | 1    |
| 4   | E89667   | Vacuum Hose Assembly - Right   | 1    |
| 5   | E89672   | Vacuum Pickup Tube             | 1    |
| 6   | E89721   | Dust Skirt                     | 1    |

# Replacement Isolator Kit



# Isolator Kit Parts Listing

## ITEM EP50252-20" ISOLATOR KIT

| NO. | PART NO. | DESCRIPTION                                    | QTY. |
|-----|----------|------------------------------------------------|------|
| 1   | E81062   | Flat Washer 5/16 Zinc                          | 6    |
| 2   | E81063   | Nyloc Hex Nut 5/16-18 Zinc                     | 6    |
| 3   | E81067   | Lock Washer 5/16 Zinc                          | 6    |
| 4   | E89656   | Dampener                                       | 6    |
| 5   | E89684   | Screw, Pan Head Philips 5/16-18 x 1.0 Lg SS    | 6    |
| 6   | E89835   | Washer, Nyloc 0.34 I.D. x 1.26 O.D. x 0.25 Thk | 12   |

## ITEM EP50253-28" ISOLATOR KIT

| NO. | PART NO. | DESCRIPTION                                    | QTY. |
|-----|----------|------------------------------------------------|------|
| 1   | E81062   | Flat Washer 5/16 Zinc                          | 8    |
| 2   | E81063   | Nyloc Hex Nut 5/16-18 Zinc                     | 8    |
| 3   | E81067   | Lock Washer 5/16 Zinc                          | 8    |
| 4   | E89656   | Dampener                                       | 8    |
| 5   | E89684   | Screw, Pan Head Philips 5/16-18 x 1.0 Lg SS    | 8    |
| 6   | E89835   | Washer, Nyloc 0.34 I.D. x 1.26 O.D. x 0.25 Thk | 16   |







# BETCO US WARRANTY POLICY

## 10 year coverage

Subject to the conditions stated below, Betco warrants parts and labor on rotationally molded polyethylene tanks/housings and injection molded vacuum head assemblies to be free from defects in materials and workmanship for a period of ten years to the original purchaser.

## 3 Year Coverage

Subject to the conditions stated below, Betco warrants parts and labor on all other Betco components to be free from defects in materials and workmanship for a period of three years to the original purchaser.

## 1 Year Coverage

Subject to the conditions stated below, Betco offers a limited warranty on parts and labor on the following equipment: parts and accessories to be free from defects in materials and workmanship for a period of one year to the original purchaser.

- HF14 Upright Vacuum: #E88820-00
- Bac Pac Lite Vacuum: #85903-00
- FiberPRO® Floor Dryer: #85507-00
- WORKMAN™ Series Vacuums:  
#85024-00, #85025-00, #83012-00,  
#85027-00
- All Tools and Accessories
- All Battery Chargers
- All Batteries are pro-rated for 1 year

### **Allowable Travel Time Warranty Reimbursement:**

Eligible equipment: All battery and propane powered equipment products. Warranty period: 90 days from date of sale to the original purchaser. A maximum 180 mile round trip at 50 cents per mile will be allowed for warranty consideration.

### **Propane Machine Warranty:**

Kawasaki engines are warranted by Kawasaki for a period of 2 years against manufacturer defects. All other components (except wear items)\* are warranted by Betco for a period of 3 years.

**\*Wear Items exempt from Warranty consideration include but may not be limited to: power cords, transport wheels, vacuum bags, belts, squeegee blades, pad drivers, clutch plates, handle grips, filters, screens, throttle cables, brushes and carbon brushes.**

Subject to the conditions and exceptions stated in this warranty, Betco warrants the Betco products to be free from defects in material and workmanship, under normal use and service, for the periods listed under the warranty policy to the original purchaser. At any time during the warranty period, Betco will furnish replacement parts for the Betco parts to the original purchaser. Such parts will be furnished and charged including transportation costs, to the original owner through any Betco authorized Service Distributor. If the original part is returned within the warranty policy period from date of delivery for inspection by Betco and is found to be defective the owner will be credited for the cost of replacement parts plus shipping and handling. Replacement parts that have become defective through wear or abuse are not included in this warranty.

This warranty does not apply to damage or defect caused by accident, misuse, Negligence, fire, or to any Betco product which has been serviced or repaired by other than an authorized Betco Service Distributor or Betco factory personnel. This warranty is void if products are used for any purpose other than that which was intended. There are no other warranties expressed or implied. In no event shall Betco be liable for incidental or consequential damages or any damage to person or property. (Please note some states do not allow the exclusion or limitations for incidental and consequential damages).

